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ABSTRACT

In a secondary study of data gathered by the National Center for Research in Vocational Education on factors associated with training-related placement of vocational education students, emphasis was on analysis of those factors that the original study identified as ones over which educational policymakers, school administrators, and teachers have some control. These educationally relevant factors included the following: (1) commitment among staff to the goal of training-related placement, (2) assignment of responsibility for job placement, (3) frequency and nature of staff contact with employers, (4) admission criteria for entrance into programs, (5) activity level of youth organizations, (6) cooperative programs that place students in jobs related to training, and (7) racial balance of the staff as compared to the community. To increase the chances of finding differences on these measures, the analysis was limited to the local education agencies (LEAs) that ranked highest and lowest on rates of related placement. The only factors found to be statistically significant were those involving a shared commitment to training-related placement among all staff, teachers having responsibility for the placement of their students, and student involvement in vocational youth organizations. In order for these factors to be stressed, high school leadership should be committed to them, school philosophy should support them, and teachers should have released time to contact employers. State and federal policy should also encourage these initiatives through financial incentives and personnel support. (KC)

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EXAMINING SECONDARY VOCATIONAL PROGRAMS WITH HIGH AND LOW TRAINING-RELATED PLACEMENT

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FOREWORD

This is the third in a series of papers that draw upon data collected in prior years under the National Center contract to examine current policy issues in vocational education. The topic of this paper is training-related employment of program completers and leavers. The paper identifies a number of variables educators can influence that distinguish between local districts with quite high and low rates of training-related placement. The intent is primarily to inform national planners and policymakers, but this work should also be of use at the state and local level.

The research effort was conducted in the Evaluation and Policy Division of the National Center under the direction of N. L. McCaslin. Morgan V. Lewis served as project director and is senior author for this paper. Dr. Lewis holds a Ph.D. in industrial psychology from Pennsylvania State University and has been involved in vocational education research for numerous years. Jeannette Fraser and Jill Russell are both Program Associates who worked on this project. Ms. Fraser is a doctoral candidate in political science at Ohio State University, and Ms. Russsell holds a masters in curriculum from Ohio State. Mollie Orth is a Graduate Research Associate who also contributed to this research effort. She is working towards a masters in foundations and research.

Critiques of a preliminary draft of the paper were provided by Gilbert Austin, University of Maryland, Baltimore County; Raymond Wasil, Department of Education, state of Ohio; and Floyd McKinney, Wayne Schroeder, and Gale Zahniser of the National Center. Other assistance was provided by Sharon Fain and Janet Kiplinger as editors and Sherri Trayser, word processor.

The contribution of all of these individuals to the preparation of this paper is appreciated. The reviewers should, however, in no way be held responsible for the viewpoints presented in this paper. That responsibility rests solely with the authors.

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Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

In 1976 federal legislation specified that one of the two criteria to be used to evaluate programs that attempt to "impart entry level job skills [shall be] the extent to which program completers and leavers find employment in occupations related to their training" (P.L. 94-482, Title II, Sec. 112(b)(1)(B)). If vocational educators are to increase the number of former students who obtain training-related employment, they must understand what influences this process. Consequently, the National Center for Research in Vocational Education conducted an extensive study (McKinney et al. 1981) that assembled a variety of data from many different sources. The original analysis of these data yielded a number of factors that were associated with training-related placement. Some of these factors, such as unemployment rates in local labor markets, were largely beyond the control of educators. Others, such as teacher involvement in placement activities, can be influenced by appropriate actions.

The present study is a more focused analysis of those factors that the original study identified as ones over which educational policymakers, school administrators, and teachers have some control. This secondary analysis examines in detail the quantitative data underlying these factors and discusses the implications for policy and practice at the local, state, and federal level.

For the purpose of this secondary analysis the educationally relevant factors were grouped as follows:

- Commitment among staff to the goal of training-related placement
- Assignment of responsibility for job placement
- Frequency and nature of staff contact with employers
- Admission criteria for entrance into programs
- Activity level of youth organizations
- Cooperative programs that place students in jobs related to training
- Racial balance of the staff as compared to the community

These factors had been identified from an analysis of many different types of data, including published statistics and case studies, as well as the survey data collected specifically for

the original study. This secondary analysis used only the survey data and selected for analysis the questionnaire items that were judged to be the best available measures of the underlying variables of interest. To increase the chances of finding differences on these measures, the analysis was limited to the local education agencies (LEAs) that ranked highest and lowest on rates of related placement.

Because local labor markets may differ so much in urban and rural areas, a supplementary comparison of these areas was also conducted. This analysis found urban areas did have more restrictive admission policies, and there was more participation in youth groups in rural areas. On the other factors, however, there were no differences.

In most cases the secondary analysis found the high placement LEAs differed in expected ways from the low placement ones. In only a few of these cases, however, were the differences statistically significant at the conventional 5 percent probability level.

The differences that were found suggest that if a LEA desired to increase its rate of related placement, the most effective technique is to develop a sense of shared commitment to this goal among all staff. Additionally, teachers should be encouraged to see themselves as having responsibility for the placement of their students, and student involvement in vocational youth organizations should be emphasized.

The literature on effective schools indicates that leadership is necessary to the development of staff commitment to common goals. This implies that the principals of comprehensive high schools and directors of vocational schools must themselves endorse training-related employment as a priority goal of secondary vocational education. If such support is present at the leadership level, there are processes that can be employed to build staff commitment to the goal. These include the development of a school philosophy, released time for teachers to contact employers, and encouragement of related employment through youth groups. One of the likely consequences of such an emphasis, it should be noted, is less attention to the guidance and exploratory components of secondary vocational programs.

State supervisory staff can play a role in developing a sense of shared commitment to common goals in local schools if they, in turn, receive support for such efforts from state policymakers and administrators. Federal policy can support the development of educational leadership, provide incentives for employer involvement, and encourage vocational youth groups. If such policies and practices are adopted, placement in training-related employment is likely to increase.

INTRODUCTION

Congress has mandated that one of the criteria by which vocational education programs shall be evaluated is the extent to which program completers and leavers obtain employment in jobs related to their training. The Education Amendments of 1976 (P.L. 94-482) specify employment related to area of training as one of two evaluative criteria, the other being employer satisfaction with the training and preparation students received. Although there are many other outcomes of vocational education, a high rate of training-related employment is perceived as a sufficiently important goal of vocational education to be legislated by national policymakers. If vocational programs are to achieve this goal, vocational educators must understand the factors that influence whether or not their graduates obtain training-related employment. To improve this understanding, the National Center for Research in Vocational Education conducted a major study of factors associated with placement rates. McKinney et al. (1981) identified many factors that were associated with the percentage of vocational graduates who obtained related employment. Policies, programs, and personnel within the school; community variables such as population density and educational or occupational characteristics of the residents; and the demand for workers in the labor market that a school serves were all found to be significant.

Although school administrators or vocational teachers can do little about local unemployment rates and community characteristics, there are factors over which they do have some control and through which job placement rates of their former students can be influenced. This paper is based on a secondary analysis of the data from the McKinney et al. (1981) study. The focus of this secondary analysis is on policies and activities that school personnel can adopt to increase their school's training-related job placement rates.

The attitudes of principals and teachers, the assignment of responsibility to place graduates in jobs, the regularity of contact with employers, the level of activity within youth organizations--all are examples of factors that the previous analysis of this data base found to be related to a school's job placement rate (McKinney et al. 1981). These factors were identified from an analysis of many different types of data, including published statistics and case studies, as well as the survey data collected specifically for the original study. This secondary analysis used only the survey data and selected for analysis the questionnaire items that were judged to be the best available measures of the variables of interest.

To increase the chances of finding differences between high and low placement schools, the analysis in this paper is limited

to the thirteen highest and thirteen lowest ranking LEAs from the sixty-two LEAs for which data were available. These represented the highest and lowest ranking 20 percent on training-related placement rates. Comparison of these widely varying LEAs can yield some indications of the directions in which schools should move if they wish to increase the percentage of their vocational graduates who obtain employment related to their training.

DATA DESCRIPTION AND ANALYSIS PROCESS

This study is based on a secondary analysis of data from a study of the correlates of training-related placement by McKinney et al. (1981). This section describes the data used for both the original study and this secondary analysis. A summary of the original study findings is also presented.

The Original Study

The purpose of the original study was threefold:

1. To identify factors relating positively or negatively to job placement
2. To provide detailed descriptions of the educational processes appearing to influence job placement
3. To generate hypotheses concerning variables relating to job placement. (McKinney et al. 1981, p. xix)

A summary of the methodology and data collection design indicates that

> data for the study came from a review of literature, an analysis of existing data, case studies, and a mail questionnaire. The study was conducted in seven states. The analysis of existing data included data for all fifty states, and 586 local education agencies having five or more vocational programs in the seven states. The case studies were conducted in eight local education agencies in the seven states. Mail questionnaires were received from 5,062 individuals representing ten respondent groups in sixty-two local education agencies in the seven states. (McKinney et al. 1981, p. xix)

The original study concluded that training-related placement was correlated with several community, labor market, and education factors. The unemployment rate in the community was found to be particularly important. A mix of industry with proportionally more manufacturing firms and more companies of smaller sizes (250 or fewer employees) was also found to correlate with higher placement rates. Availability of transportation to jobs emerged as related to training-related placement, as did being located in a community with proportionally more nonwhites in the population.

Since the factors that can be influenced by educators are the major focus of the present paper, they are listed as reported by McKinney et al. in a forthcoming summary of their

research. Higher job placement was found in those schools where:

- There is a clear understanding of the importance of job placement as a goal for vocational education programs.
- Key administrators and teachers regard job placement for vocational students as desirable.
- Principals are committed to the placement of vocational students in jobs related to their training.
- A high level of staff enthusiasm exists with regard to vocational students and training-related placement.
- Teachers are committed to the position that they have a great deal of responsibility for placing students in jobs related to their training.
- Teachers have regular contact with employers regarding the job placement of students.
- A job placement office provides coordination and includes teachers in job placement activities.
- Admission to vocational education programs is restricted to students with interest and high potential.
- Cooperative vocational education programs place students in jobs related to their training programs.
- Needs assessment surveys are used frequently for planning and evaluating vocational education programs.*
- Vocational education curriculum is oriented to the needs of employers.
- School staff resembles the racial balance of the community.
- Students participate in youth organizations. (pp. i-ii)

*The finding on frequent use of needs assessment surveys was omitted from the secondary analysis because there were no survey data relevant to this finding.

Secondary Analysis Process

Several of the factors listed in the previous section appear to refer to similar constructs. To determine if there were a smaller number of more basic factors, nine staff members of the National Center were asked to act as "judges", and to sort the findings into as many groups as they thought were needed. [This procedure is similar to the "own categories" technique for attitude measurement developed by Sherif and Sherif (1967)]. Five of the judges were from the staff of the original project that collected the data to be analyzed. Appendix table A.1 presents the results of this sorting of the items. Based on the results of this process, and the judgement of the present writers, the educationally related factors were grouped as follows for further analysis:

- Commitment (What is the level of commitment of the school staff towards job placement?)
- Responsibility (Who is responsible in the school for job placement?)
- Contact with employers (What is the frequency and nature of contact with employers?)
- Youth organizations (How many students participate actively?)
- Admission to vocational programs (Is program admission restricted and how?)
- Staff resemblence to community (What are the racial proportions or mix of the staff and that of the community?)
- Cooperative vocational programs (How many students participate in co-op programs? Are the jobs related to training?

Once this condensed list of educationally related factors was developed, literature was analyzed and reviewed. The sources that served as the basis for each of the findings in the original study were identified. Items from the mail questionnaires that were judged to be relevant to the educationally related factors were selected.

The thirteen highest and thirteen lowest placement sites of the sixty-two mail survey sites were identified. The rates of placement in training-related employment for those from high ranking schools ranged from 97.0 to 71.9 percent, with the average being 86.8 percent. The comparable figures in the low ranking schools ranged from 7.9 to 35.4 percent, with the average

being 26.8 percent. These LEAs thus were quite different and were located in labor markets where the demand for workers also differed markedly. The average unemployment rate in the high placement sites was 4.2 percent and in the low placement sites 7.0 percent. It should be noted that this--the local unemployment rate--was the single factor that McKinney et al. (1981) identified as having the most influence on placement rates.

Responses to the relevant survey items were compared for the high and low placement sites through cross-tabulations (with use of chi square where appropriate) and through discriminant analysis.

RECENT LITERATURE

This section of the paper highlights recent literature on educational factors that appear to influence the placement of students in training-related employment. While this goal is mandated in legislation, there is a variety of other goals that are perceived by some vocational educators to be more important. For example, vocational education's prime purpose is believed by some to be the democratization of the schools (Swanson 1982), by others to be an alternative for lower level students, and by still others to be a vehicle for teaching basic or transferable skills. McKinney et al. (1981) and Edin (1979) found that most vocational educators rank the job placement goal lower than such goals as occupational exploration and competency attainment. One could argue, however, that these are intermediate goals leading to a higher goal of training-related employment. Certainly, occupational exploration and the development of skill proficiency have little meaning if these do not lead to jobs that allow the skills to be used.

Another factor often linked with training-related job placement is the frequency and quality of contact with employers (Buckingham 1973; Eninger 1968; Goor and Schroeder 1976; Kaufman and Schaefer 1967; Lloyd 1981; Meehan and Franchak 1975; Rosen 1970; Venn 1964; Wasil 1976). All of these studies have contended that frequent employer contact enhances the relevancy of instruction and the acceptance of program completers by employers. O'Reilly and Asche (1979) analyzed follow-up study procedures and concluded that those vocational programs that make use of the findings from follow-up studies probably have a higher job placement rate. One of the most frequent forms of contact with employers is through existing advisory councils. Bottoms (1980) argues that though there is room for improvement, advisory councils do serve the function of linking vocational educators with the community. Mitchell (1977) points out that for an advisory council to function effectively, vocational educators must honestly want its advice or counsel.

Another factor considered likely to influence successful job placement after program completion is the opportunity to participate in cooperative education (Carnegie Council on Policy Studies 1979; Lewis and Fraser 1982; National Commission on Youth 1980). Whether or not admission criteria are used to select those who will enter vocational programs and the restrictiveness of criteria, are other factors that seem logically to relate to the probability of obtaining training-related employment after leaving the program. Students who are highly motivated to find training-related placement probably do so more often than those participating in vocational education for exploratory purposes.

Vocational youth organizations (such as the Future Farmers of America and the Vocational Industrial Clubs of America) attempt to develop youths' leadership skills, employability skills, and motivation (Reel 1980). The degree to which they achieve these goals would appear to influence subsequent job placement rates.

These are some of the education-related factors that have been proposed as being relevant to placement in training-related jobs. Although they have influence, they can only operate effectively within a defined geographic area where local labor conditions appear to be favorable to placement of vocational completers (McKinney et al. 1981).

FINDINGS

This section presents the secondary analysis of the survey data relating to factors that can be influenced by the actions of educators. As was mentioned previously, the major findings from the original study with regard to these factors were submitted to nine judges who sorted them into related groups. The grouped factors that resulted from this sorting procedure are presented in table 1 together with a summary of the results of the statistical analysis. This analysis compared responses of teachers, administrators, and students from LEAs that ranked in the highest and lowest 20 percent on related placement rates. Statistically significant findings were identified for four of the seven factors. Three of these were in the direction predicted by the original study: teachers from high placement districts were found to take more responsibility for placement and to more actively participate in placement activities; students from high placement districts were more likely to be members of vocational youth groups. One finding, however, was contrary to what was expected. Students from low placement districts were more likely to be in cooperative education programs. While statistical significance was not achieved in the remaining cases, in all but one the results were in the predicted direction. The complete tables presenting these data can be found in the Appendix (tables A.5-A.16).

Since conditions within labor markets of metropolitan and nonmetropolitan areas can be so different, a supplemental analysis of all sixty-two LEAs was conducted on the same variables listed in Table 1, partitioned by location in or outside of a Standard Metropolitan Statistical Area (SMSA). The results indicate LEAs located within SMSAs had slightly more restrictive admission policies for their vocational programs (Appendix table A.2). Schools within SMSAs may have more restrictive admissions simply because of the greater number of students and consequent increased competition for entrance. Youth organizations have higher membership and participation rates in LEAs located outside of metropolitan areas (Appendix tables A.3 and A.4), possibly because of the strength of the agricultural youth groups or competing activities in urban areas. Attitudes relating to commitment and responsibility for placement and level of activity with employer groups did not vary by location of LEAs. Since no significant attitudinal differences were identified, no further analysis was conducted on the differences between metropolitan and nonmetropolitan LEAs.

The remainder of this section is organized around the seven grouped factors that were predicted to influence job placement: (1) commitment within a school to job placement, (2) teachers taking responsibility for job placement, (3) the establishment of regular contacts between the school and employers, (4) active

TABLE 1

SUMMARY OF COMPARISONS OF HIGH AND LOW PLACEMENT SITES ON SELECTED EDUCATIONAL FACTORS

Educational Factors Predicted to be Associated with Placement	Measurement Used	RESPONDENT GROUPS: Teachers	RESPONDENT GROUPS: Others
Teachers and administrators are committed to training-related placement	Ranking of goals of vocational education	(A.5)[a] No relationship[b]	Administrators: (A.5) No relationship[b]
Teachers take responsibility for job placement	Teachers responsibility for job placement	(A.6) In predicted direction[b]	NA
	Job placement office responsibility for placement	(A.7) No relationship[b]	NA
Teachers have regular contacts with employers on job placement	Frequency of contacts	(A.8) No relationship[b]	NA
	Teacher participation in job placement activities	(A.9) In predicted direction[b]	NA
	Proportion of time in contact with employers	(A.10) No relationship[b]	NA
	Evaluation of employer involvement	(A.11) No relationship[b]	NA
Students have cooperative education jobs related to training	Participation in cooperative programs	NA	Current and Former Students: (A.12) Contrary to prediction[b]
Admission to programs is restricted	Number of criteria	(A.13) Neither confirmed nor rejected	NA
School staff resembles racial balance of community	Proportion staff and community who are white	(A.14) No relationship[b]	NA
Students participate in youth organizations	Membership	NA	Current and Former Students: (A.15) In predicted direction[b]
	Level of involvement	NA	(A.16) No relationship[b]

NA = No data available

[a]For complete information see tables in Appendix as identified by number in parentheses.

[b]Findings refer to statistically significant results at the .05 probability level or less. All of the results, except for participation in cooperative education, were in the predicted direction.

student organizations, (5) cooperative education, (6) restrictive admission policies, and (7) similiar racial composition within the school and the community. These factors are examined for the LEAs with highest and the lowest training-related placement rates.

Commitment

Of the twelve factors originally identified as amenable to influence by educators, most judges sorted five or six into a group which was labeled "commitment." Although this appeared to be a crucial factor, measures of it were limited. The closest approximation was a set of five possible goals for secondary vocational education that teachers and administrators were asked to rank in order of importance with the score of one being assigned to the most important goal. The five goals were (1) to provide competencies needed to obtain jobs, (2) to provide training-related placement, (3) to provide career awareness, (4) to provide career exploration, and (5) to provide placement not related to training. Mean ranks were calculated and are presented in Appendix table A.5 for each group of respondents. The discussion that follows refers to these mean ranks.

Teachers

The goal of providing competencies necessary for students to obtain jobs had the highest mean rank at both high and low placement sites. Sixty-six percent of vocational education teachers at high placement sites ranked providing competencies as the most important goal, as did 55 percent of teachers at low placement sites. At both high and low placement sites, the goals of providing career awareness, career exploration, and training-related placement were of nearly equal rank and ranked clearly below the goal of providing competencies. At both types of sites, placement not related to training was ranked as the least important goal, and it was far below the middle three. There was little difference in the rankings by teachers at high and low placement sites.

Administrators

The rankings of goals by administrators were very similar to those by teachers. Administrators at both high and low placement sites agreed that providing competencies needed to obtain a job was the most important goal, that placement not related to training was the least important goal, and that the other three were in between and highly similar in importance. Teachers and administrators were in agreement on the goals of vocational education.

While training-related placement was not ranked as the most important goal of teachers and administrators, the goals of providing competencies, career awareness, and career exploration are all activities designed specifically to aid students in securing and maintaining employment in the labor market. Since obtaining unrelated employment was by far the lowest ranked goal, the inference is that teachers and administrators would prefer that their students obtain related rather than unrelated employment. Whether or not they obtain such employment, however, is less subject to the control of educators. These educators seem to be saying they want to be judged on those outcomes that are more directly under their control, particularly the acquisition of occupational competencies.

Responsibility

Although sorted by most judges into a separate group that was labeled "responsibility," the questionnaire items that were used to measure this factor touched on commitment also. They refer to the amount of responsibility that teachers think they should have and the amount of responsibility a job placement office should have for placing students in jobs.

Teachers at high placement sites were significantly more likely to take responsibility for job placement, with 62 percent responding that they should have "much" or "very much" responsibility, compared to only 33 percent endorsing these options at low placement sites (Appendix table A.6). Teachers at low placement sites were more likely to assign most of the responsibility to the job placement office, although the degree of the relationship did not reach statistical significance (Appendix table A.7). Fifty percent of teachers at low placement sites stated that the office should have "very much" responsibility, while 36 percent of teachers at high placement sites believed the same. The assumption of responsibility for job placement by teachers is related to higher rates of employment of students in jobs related to their training and reflects shared commitment to common goals.

Contacts with Employers

Are frequent contacts with employers associated with higher placement rates? Two-fifths of teachers at both high and low placement sites reported they contacted employers once a month regarding job placement (Appendix table A.8), and the distribution of these contacts was very similiar across sites. There was no observable relationship between frequency of contacts and the placement rates in the selected LEAs.

A significantly greater percentage of teachers at high placement sites, however, spent time participating in job placement activities than did teachers at low placement sites (Appendix table A.9). Fifty-eight percent of teachers at high placement sites were involved in job placement activities, while only 41 percent were actively involved at low placement sites.

The other two items that relate to contact with employers had differences in the expected direction, but they were not statistically significant. Teachers at high placement sites tended to spend more time in actual contact with employers and to evaluate employers' involvement in placing students more favorably than did their counterparts in low placement sites. Both of these differences failed to reach significance at the 5 percent probability level (Appendix tables A.10 and A.11).

Cooperative Education

Since many high school students continue in their cooperative education jobs after leaving school, it would appear likely that increased participation in cooperative programs would lead to more employment in training-related jobs. Appendix table A.12 presents data that address the level of participation in cooperative education at the two types of LEAs. It was not possible, however, to determine from the available data whether the cooperative placement was actually related to the skills studied.

The findings in Appendix table A.12 are the only ones that were contrary to the predicted direction: a significantly higher percentage of students participated in cooperative education at low placement sites than did students at high placement sites. It is hard to explain these results unless the majority of the cooperative education jobs at low placement sites were in jobs that were not related to the students' training. If students were not in related jobs, cooperative education participation would not lead directly to training-related jobs after graduating from high school.

Restrictive Admission Policy

The number of criteria used to select students for vocational education programs varied by school and by program within the LEAs that were studied. Because of this school-by-school, program-by-program variation, there was no observed pattern of higher placement rates resulting from more restrictive admission policies (Appendix table A.13). If a single admission policy were observed for an entire LEA, higher placement rates might be associated with more restrictive admission policies since better students would be selected.

Racial Composition

Higher placement rates were found where the racial characteristics of the school staffs were similar to the racial characteristics of the communities they served (Appendix table A.14). Once again, however, the relationship, while in the predicted direction, was not significant. The direction of the relationship, also, was unexpected. There was a higher percentage of minority teachers in low placement sites than there were minorities in the population served. It could be that minority teachers did not have as much contact with minority employers in the community, thus depressing training-related job placement rates in those LEAs, but this is only speculation.

Student Organizations

At high placement sites a significantly higher percentage of students were members of vocational education youth organizations than at low placement sites (Appendix table A.15). Eighty percent of current and former vocational students reported membership in youth organizations at high placement sites while 52 percent reported membership at low placement sites.

While the membership rates varied by type of LEA, the level of involvement by the student once they had joined the organization did not. Appendix table A.16 data show that two-thirds of the students at both high and low placement sites reported participating "often" or "very often" in student organizations.

Discriminant Analysis

To obtain another perspective on the data, a discriminant analysis was conducted. Discriminant analysis has the advantage of involving a simultaneous assessment of how well different measures distinguish between two or more groups. It also yields estimates of which of the measures contributes most to the differentiation. In this analysis the two groups analyzed were the teachers from the LEAs that ranked high and low on placement rates, and the measures were their responses to the questionnaire items that were examined in the cross-tabulations, plus the unemployment rates in the labor markets where the LEAs are located. There were not sufficient numbers or sufficient measures for the other respondents to justify additional analyses.

There were a number of technical problems in conducting the discriminant analysis. These involved the mathematical properties of the measures and the large number of teachers for whom responses were missing on one or more of the measures. Because of these missing responses, the discriminant analysis was

conducted with only ninty-six (40 percent) of the two hundred and thirty-eight teachers from the selected LEAs.

These problems require that the results from the discriminant analysis be interpreted cautiously. These results are presented in table 2. The standardized coefficients indicate the relative contribution of the variables to the discriminant function. It is clear that the most discriminating measure is the unemployment rate in the labor market where the school is located. After this factor was accounted for, there were still five education-related factors that contributed significantly to the discriminant function. The most important of these was the extent to which teachers feel they have responsiblity for placing students. This also was one of the measures that showed a large significant difference between high and low ranking LEAs in the cross-tabulations. The statistics for the other four measures that were found to be significant are presented in table 2, and the variables that were not significant are listed in footnote a to table 2.

Overall the results from this discriminant analysis and from the preceding cross-tabulations point in a similar direction. The demand for workers in local labor markets obviously is strongly associated with whether or not students find employment related to their training. Even allowing for this, however, several educational factors had a relationship to rates of related placement. The most significant of these was the extent to which teachers accepted responsibility for placing their students. This suggests a shared commitment among the staff in a school to a common goal of related placement.

The results from the items that were judged to tap this commitment most directly, however, were not different in the high and low placement LEAs. These were the five goal statements that the respondents were asked to rank from most to least important. Teachers and administrators in both high and low placement districts tended to rank these goals similarly. Most of the other factors had differences in the predicted directions, although not all of these were significant at the conventional 5 percent probability level.

Although not confirmed by all the analyses, it does appear that a shared commitment to high placement among school staff and frequent contact with employers are key components of schools that place a high percentage of their graduates in related employment. Methods that could be adopted to develop such components are discussed in the next section.

TABLE 2

DISCRIMANANT ANALYSIS OF TEACHERS FROM LEAS
RANKING HIGH AND LOW ON RATES
OF TRAINING-RELATED PLACEMENT

Significant Variables[a]	Standardized Coefficients	Wilks Lambda	Significance
Unemployment rate	.93	.61	<.001
Responsibility of vocational education teacher in placement	.56	.51	<.001
Number of admission criteria to enter program	.35	.49	<.001
Percent of teachers' placement time in contact with employers	.34	.47	<.001
Congruence in school and community racial composition	.24	.45	<.001
Goal: Career exploration	.21	.44	<.001

Note: Statistics for discriminant function: Canonical correlation (groups with discriminant function) .75, Wilks' Lambda = .44, Chi square = 77.51, df = 6, significance = <.001.

[a]The following variables were entered into the analysis but were excluded from the final discriminant function because they did not distinguish, at a statistically significant level, between the teachers from high and low placement LEAs: goal of job placement, goal of competencies needed to obtain job, goal of career awareness, responsibility of job placement, service in job placement, help of involvement of employers in job placement, and help of contact with employers in job placement.

IMPLICATIONS AND RECOMMENDATIONS

The information generated through this analysis of factors associated with training-related job placement has implications for teachers, administrators, state departments of vocational education, and national policymakers. Although the main thrust of this paper is to inform decision makers at the federal level about this subject, much of it can be useful to persons at the local level. In fact, the major educational factors that seem to enhance job placement are largely dependent upon local values and action. Nevertheless, the 1976 Vocational Education Amendments stand as a clear mandate at the national level that training-related employment shall be a high priority outcome for vocational programs. The following recommendations for actions to increase placement are grouped into local-, state-, and national-level interventions.

Local-Level Interventions

This secondary analysis suggested three approaches that appear likely to increase the rate at which program completers obtain employment in training-related jobs:

- Developing a sense of shared commitment among school staff to the goal of training-related employment
- Encouraging and facilitating contact between school staff and employers
- Encouraging membership in vocational youth groups.

Methods for carrying out each of these approaches are discussed in more detail.

Developing a Shared Commitment to Goals

Although the most direct measure of commitment did not differentiate between high and low placement LEAs, several other findings pointed to the importance of this factor. In many ways these results parallel the results of research on schools that are effective in teaching basic communication and computational skills (Austin 1981, Lezotte 1981). There is a growing body of studies that stress the importance of leadership, teacher involvement, shared agreement about the goals of instruction, and common expectations about what students should and will be able to do.

The literature on effective schools indicates that the principal sets the tone for the school in a number of areas. This suggests that if principals of comprehensive high schools and directors of area vocational schools accept training-related placement as a primary goal for secondary vocational education and act to achieve this goal, placement rates are likely to improve. They will, that is, if there is similar acceptance of this goal among teachers. The literature on effective schools and the present analysis both indicate that there must be a shared acceptance of common goals among all school staff if those goals are to be achieved.

School philosophy. Assuming that the educational leadership in a school wants to develop a shared commitment to achieving high rates of training-related placement, there are several things that can be done. A school philosophy can be developed that clearly states the importance of students obtaining jobs after graduation in fields for which they were prepared. To encourage staff to adopt this philosophy workshops or inservice sessions could be conducted that include group processes designed to achieve consensus on school goals. Advisory council meetings, school board meetings, and faculty meetings could include discussions on members' commitment to the goal of training-related placement. Student organizations could assess their members' short- and long-term employment goals.

The literature on effective schools also indicates that both curricula and instructional techniques must reflect the goals of the school. The curricula could be structured to include more emphasis on actual skill training and avenues for locating a training-related job, and less emphasis on "exploration" activities. Admission standards for entrance into vocational programs could be set to focus upon those students truly interested in locating a job after high school in the occupation for which they desire training. These changes would, of course, affect other outcomes of the vocational program. If more time were spent on preparing people for specific occupations, then less time could be spent on basic skills, transferable skills, or guidance-related activities.

Job placement office. Job placement offices that make a concerted effort to involve teachers, understand their perspectives, and keep them informed are more effective than offices that try to operate independently. Shared responsibility for training-related placement is a commitment issue as well as a logistics issue. Job placement and/or guidance staff can strive to act in a clearinghouse or brokerage role. This too relates to the need to foster a school climate that emphasizes a team spirit that is aimed at a higher training-related placement rate. It is clearly not an effective strategy to assign job placement responsibility solely to a separate office. Such offices appear to be more effective when they keep teachers actively involved.

Encouraging Contact with Employers

Teacher contact with employers appears to be another characteristic of schools that achieve high rates of training-related employment. This is another area where the findings from this secondary analysis parallel similar results in the literature on effective schools. That literature documents the importance of community (primarily parental) involvement. Although not all the analyses of this component were significant, they all were in the expected direction--more contact was associated with higher placement. If an administrator wished to encourage such contacts, the first step would be to arrange teachers' schedules to provide for employer contact time. Another useful technique would be to select teachers who are successful in job placement to work with and advise other teachers. Encouraging communication among teachers, counselors, and job placement specialists should both build the shared commitment to common goals that is characteristic of successful schools, and provide for the exchange of practical information on job placement techniques and opportunities.

Teachers who make effective use of the advisory council members for their program area may have an advantage in placing their students. Teachers can contact employers in the community on a regular basis for help, not only in student placement, but also in curriculum development or program evaluation. In a national survey of manufacturers, most respondents indicated a high willingness to cooperate with vocational educators in a number of joint efforts (Nunez and Russell 1982).

Administrators can speak to groups of employers (e.g., civic groups, personnel associations, professional organizations) about hiring vocational education graduates. They can also bring employers into the school for open houses or jobs fairs. They can develop and distribute newsletters with information on about-to-graduate vocational students who are looking for jobs. Administrators can also make efforts to ensure that teachers have information about such concerns as local labor market conditions, the ratio of small to large businesses, and influential community leaders and business officials.

Industry-education councils, such as those sponsored by the National Association for Industry-Education Cooperation (1972), can be established to provide a formal structure for interaction among educators, labor leaders, and employers. Formalizing such communication lessens the risk of diminished interaction if one charismatic linkage person leaves the scene (Russell 1978). Working with the local private industry councils of the Department of Labor's employment and training program is another way to broaden private sector involvement with the schools and thus

enhance vocational student job placement rates. Teacher initiatives in making contact with employers should be recognized and reinforced by those administrators hoping to increase training-related job placement in their schools.

Emphasizing Vocational Youth Groups

Another factor associated with higher placement rates is the participation of students in vocational education youth organizations. Teachers can actively promote participation with their students and can also provide technical assistance to such groups. Administrators can offer inservice sessions to teachers on the attributes and positive outcomes of youth groups and can let students know the benefits of participation. Youth groups can organize activities that increase their members' rate of obtaining jobs. Job hunt clubs have been found to be effective with disadvantaged students who are looking for work (Wegmann 1979; Azrin 1978).

State-Level Interventions

The state agency responsible for vocational education is a key link between federal policy initiatives and local actions. Frequently, local vocational education officials are either too preoccupied with program operation or unaware of federal initiatives to respond without first receiving information, direction and incentive from state officials (Ruff 1981; Fraser, Orth, and Lewis 1982). The state agency traditionally carries out this role by ensuring local compliance with the federal and state regulations that incorporate the relevant federal initiatives.

This compliance is ensured through the review and funding of local plans and through the monitoring and evaluation of local programs. Much of this review and monitoring is performed by state specialists in the various service areas of vocational education (agriculture, business and office, trade and industry, etc.). These specialists also have the responsibility to provide technical assistance and inservice training to local school staff in their service areas.

These state specialists thus play a key role in transmitting any federal policy to the local level. If they are to encourage employment in training-related jobs, they themselves must receive a clear message that placement is a priority goal for vocational education in their state. Such a message would have to be communicated from the state governing body for vocational education (through the top state administrators), to the state specialists who have the continuing contact with local vocational personnel. Many state staff would also need inservice training in effective

job placement techniques so they could transmit these to the local level.

Other Interventions

The ultimate sanction at the state level, of course, is the withholding of funds to programs that are judged as no longer needed or not performing satisfactorily. Since rates of related employment can be influenced by many factors besides the need for or the quality of an instructional program, it is rarely used as an explicit criterion in the decision to fund programs (Franchak, forthcoming). If it were adopted, however, it would obviously have considerable influence on local practices. For this policy to be administered fairly, adjustments would have to be made to allow for local labor market conditions. The scarcity of accurate data on local labor markets and the difficulties in defining the precise labor markets a specific LEA serves limit the applicability of this approach at the present time.

Other less coercive steps state agencies can take include the following:

- Encouraging teacher training institutions to address job placement activities as an area in which vocational education teachers need to obtain competence
- Establishing area committees of representatives from vocational education institutions serving the same geographic areas to assist the local educators in meeting employers needs
- Assembling, assessing and disseminating state employment projections data, business trends, legislative priorities, and information on other factors that may affect the need for vocational education throughout the state

In general, the state agency could assume a "futures research" mode to make local vocational institutions more proactive regarding employers' needs and possibly to increase placement rates. To the extent that this approach yields more relevant programs and curricula, employers may see a greater benefit to cooperating with local institutions.

National-Level Interventions

Federal vocational education legislation addresses a number of national goals. Meeting the skill needs of the nation through "vocational training or retraining which is of high quality,

[and] which is realistic in the light of actual or anticipated opportunities for gainful employment" (P.L. 94-48 Section 104(4)) is the goal most clearly reflected by the criterion of employment in occupations related to training. However, there are other goals, such as serving disadvantaged and handicapped individuals and overcoming sex stereotypes that the training-related placement criterion measures poorly, if at all. In fact, the extent to which these latter goals are emphasized may make the achievement of training-related employment more difficult. All things being equal, it is easier for nondisadvantaged program completers to obtain jobs that are traditional for their sex than it is for disadvantaged individuals to obtain nontraditional jobs.

The multiple, and at times competing, goals of federal legislation appear to have obscured the focus on training-related employment mandated by the 1976 Amendments. The other goals, however, while valuable in themselves, acquire more meaning when they lead to employment where the skills that were studied are used. If public vocational education programs were accessible to all who wanted them, had all sex stereotyping removed, offered a wide range of compensatory services to all who needed them, but did not lead to employment, the programs would be judged to be failures by most of their clients. Given this emphasis on employment (particularly training-related employment), the findings from the analyses presented in this paper suggest some areas in which federal initiatives may be effective.

Leadership Development

A shared commitment among all staff to common goals for the school appears to be a key element in effective schools. While the role of educational leaders in fostering this commitment has not been unequivocally established, strong leadership is always found in effective schools. On the assumption that leadership can help develop a sense of shared commitment, federal investment in leadership development is a possible approach.

This approach is based on the premise that leadership development programs will accomplish two objectives. First, they will convince present and future educational leaders that employment of former vocational students in jobs related to training is an appropriate and high priority goal of vocational programs. Second they will teach educational leaders the skills needed to foster a shared commitment to this goal among the staff members in their schools. Although this approach is based on a long chain of assumptions, the evidence on the positive relationship between strong leadership and effective schools is fairly solid. Effective leadership may not be sufficient to produce effective schools, but it is certainly a necessary component.

Encouraging Community Involvement

Greater involvement of the community in vocational education seems very likely during the remainder of this century. High rates of technological changes, increased investment in capital equipment, and decreased resources available for education are some of the major influences that are causing vocational education to seek stronger links with business, industry, and labor (Lewis and Russell 1980). Federal vocational education legislation since 1963 has encouraged increases in cooperative education education and work study programs, and the Targeted Job Tax Credit Program offers financial incentives to employers who provide cooperative employment for young people from economically disadvantaged families.

Continued federal emphasis on communication among vocational educators, employers, and community leaders should facilitate discussion, joint activities, and eventually improved training-related placement rates. Various options for increasing community involvement are discussed in a previous paper in this series (Lewis and Fraser 1982). The potential advantages and disadvantages of three basic approaches are discussed:

1. Encouraging community councils
2. Providing financial incentives to employers
3. Having schools act as brokers/clearinghouses for training provided in the community

Youth Groups

Participation in vocational youth groups was found to be associated with higher rates of training-related placement. Whether the groups themselves are the cause of the higher rates or merely reflect other characteristics, such as a strong vocational emphasis in the school, cannot be determined. Nevertheless, an active vocational youth program should lead to activities that would tend to enhance placement.

Federal legislation could specifically endorse youth groups as an essential component of public vocational programs. Many of the national representatives of vocational youth groups think that such an endorsement would be a national vote of confidence for this approach and would stimulate more participation at the state and local level. If this increased activity were combined with specific job finding efforts (such as those noted in the discussion of local interventions), higher rates of related placement would seem likely.

APPENDIX

TABLE A.1

GROUPING OF ORIGINAL STUDY FINDINGS

Judge	Grouping #1	2	3	4	5	6	7	8
1	1, 2, 3, 4, 5, 7	6, 9, 10, 11	-	8, 13	-	-	12	-
2	1, 2, 3, 4, 5	6, 7	-	8, 9, 12, 13	-	10, 11	-	-
3	1, 2, 3, 4, 5	6, 11	-	7, 8, 9, 10	-	-	12	13
4	1, 2, 3, 4, 5, 6, 7	-	-	8	9	10, 11	12	13
5	1, 2, 3, 4, 5	6, 7, 9	-	8	-	10, 11	12	13
6	1, 2, 3, 4	6, 11	5, 7	8	9	10	12	13
7	1, 2, 3, 4, 5	6, 7	-	8	9	10, 11	12	13
8	1, 2, 3, 4, 5	6	7	8	9	10, 11	12	13
9	1, 2, 3, 4, 5	6, 7	-	8	9	10, 11	12	13
General Categories Determined by Authors to Best Fit Submitted Groupings	Commitment	Responsibility		Restricted Admissions	Co-op Programs	Contact With Employers	Staff Racial Balance	Youth Organizations

Item Identification Key

1. Vocational personnel have a clear understanding that job placement is a primary goal for vocational education programs.

2. Key administrators and vocational education teachers within a school consistently regard job placement for vocational students as desirable.

TABLE A.1
(Continued)

3. Principals are committed to the placement of vocational students in jobs related to their training.
4. A high level of staff enthusiasm exists with regard to vocational students and training-related placement.
5. Teachers are committed to the position that they have a great deal of responsibility for placing students in jobs related to their training.
6. Teachers have regular contact with employers regarding the job placement of students.
7. A job placement office provides coordination and includes teachers in job placement activities.
8. Admission to vocational education programs is restricted to students with high interest and high potential.
9. Cooperative vocational education programs place students in jobs related to their training programs.
10. Needs assessment surveys are used frequently for planning and evaluating vocational education programs.
11. Vocational education curriculum is oriented to the needs of employers.
12. School staff resembles the racial balance of the community served.
13. Students participate in youth organizations.

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TABLE A.2

ADMISSION POLICY RESTRICTIONS BY LOCATION OF LEA
(Teachers)

Number of Admission Criteria	Location of LEA[a] Outside SMSA (percent)	Within SMSA (percent)
Three Criteria	7	14
Two Criteria	33	40
One Criterion	53	40
No Admission Criteria	7	6
TOTAL	100	100
Number	[238]	[834]

[a]Differences between metropolitan and nonmetropolitan LEAs significant at chi square = 16.56, $p < .001$, df = 3.

TABLE A.3

MEMBERSHIP IN STUDENT ORGANIZATIONS
BY LOCATION OF LEA
(Current and Former Students)

Membership	Location of LEA[a]	
	Outside SMSA (percent)	Within SMSA (percent)
Members	77	66
Non-Members	23	34
TOTAL	100	100
Number	[278]	[830]

[a]Differences between metropolitan and nonmetropolitan LEAs significant at chi square = 11.33, $p < .001$, df = 1.

TABLE A.4

LEVEL OF INVOLVEMENT IN STUDENT ORGANIZATIONS
BY LOCATION OF LEA
(Current and Former Students Who Are or Were Ever Members)

Level of Involvement	Location of LEA[a]	
	Outside SMSA (percent)	Within SMSA (percent)
Participate Very Often or Often	74	61
Participate Sometimes, Rarely, or Never	26	39
TOTAL	100	100
Number	[213]	[546]

[a]Differences between metropolitan and nonmetropolitan LEAs significant at chi square = 10.25, $p < .002$, df = 1.

TABLE A.5

MEAN RANK OF GOALS BY PLACEMENT RATE
(Teachers and Administrators)

Goal	Teachers		Administrators[a]	
	Placement Rate		Placement Rate	
	High (mean rank)	Low (mean rank)	High (mean rank)	Low (mean rank)
To Provide Competencies Needed to Obtain a Job	1.4[b]	1.6	1.8	1.2
To Create an Awareness of the Jobs for which One Might Prepare	2.7	2.6	2.4	2.8
To Place Students in a Job Related to Their Training	2.8	3.0	2.9	2.8
To Provide an Opportunity to Explore Various Occupational Areas	3.2	2.8	2.8	3.2
To Place Students in a Job Not Necessarily Related to Their Training	4.5	4.5	4.4	4.4
Number	[133]	[100]	[53]	[18]

[a]Administrators include principals and vocational education directors.

[b]The mean of the rankings of this item on a scale of 1 = most important and 5 = least important.

TABLE A.6

RESPONSIBILITY FOR PLACEMENT BY PLACEMENT RATE
(Teachers)

Amount of Responsibility for Job Placement	Placement Rate[a] High (percent)	Low (percent)
Very Much	27	9
Much	35	24
Some	32	52
Little	6	12
Very Little	0	3
TOTAL	100	100
Number	[135]	[99]

[a]Differences between high and low placement sites significant at chi square = 24.04, $p < .001$, df = 4.

TABLE A.7

RESPONSIBILITY OF JOB PLACEMENT OFFICE
FOR PLACEMENT BY PLACEMENT RATE
(Teachers)

Responsibility of Job Placement Office for Placement	Placement Rate[a] High (percent)	Low (percent)
Very Much	36	50
Much	36	33
Some	21	13
Little	6	2
Very Little	1	2
TOTAL	100	100
Number	[120]	[96]

[a]Differences between high and low placement sites not significant at chi square = 7.82, $p < .10$, df = 4.

TABLE A.8

FREQUENCY OF CONTACT WITH BUSINESS AND INDUSTRY
BY PLACEMENT RATE
(Teachers)

Frequency of Contacts with Business and Industry	Placement Rate[a] High (percent)	Low (percent)
Once a Month	44	41
Once Every Three Months	16	19
Once Every Six Months	12	14
Once a Year	7	9
Never	6	12
Other	15	5
TOTAL	100	100
Number	[84]	[57]

[a]Differences between high and low placement sites not significant at chi square = 5.99, $p < .31$, df = 5.

TABLE A.9

PARTICIPATION IN JOB PLACEMENT ACTIVITIES
BY PLACEMENT RATE
(Teachers)

Participation in Job Placement	Placement Rate[a] High (percent)	Low (percent)
One Hour or More Per Week	58	41
No Time	42	59
TOTAL	100	100
Number	[136]	[102]

[a]Differences between high and low placement sites significant at chi square = 6.10, $p < .02$, df = 1.

TABLE A.10

JOB PLACEMENT TIME IN CONTACT WITH EMPLOYERS
BY PLACEMENT RATE
(Teachers)

Percent of Time in Contact with Employers	Placement Rate[a] High (percent)	Low (percent)
No Time	26	40
1-25	25	29
26-50	27	21
50-100	22	10
TOTAL	100	100
Number	[78]	[42]

Note: This table includes teachers who spend one hour or more per week in job placement activities.

[a]Differences between high and low placement sites not significant at chi square = 4.71, $p < .20$, df = 3.

TABLE A.11

EVALUATION OF EMPLOYER INVOLVEMENT IN HELPING
STUDENTS GET JOBS BY PLACEMENT RATE
(Teachers)

Evaluation of Employer Involvement	Placement Rate[a] High (percent)	Low (percent)
Helps Very Much	39	27
Much	39	49
Helps Some	19	15
Little	3	6
Helps Very Little	0	3
TOTAL	100	100
Number	[133]	[99]

[a]Differences between high and low placement sites not significant at chi square = 9.18, $p < .10$, df = 4.

TABLE A.12

COOPERATIVE EDUCATION PARTICIPATION BY PLACEMENT RATE
(Current and Former Students)

Participation in Cooperative Programs	Placement Rate[a] High (percent)	Low (percent)
Have Had a Co-op Job	6	16
No Co-op Job	94	84
TOTAL	100	100
Number	[141]	[127]

[a]Differences between high and low placement sites significant at chi square = 6.07, $p < .02$, df = 1.

TABLE A.13

ADMISSION POLICY RESTRICTIONS BY PLACEMENT RATE
(Teachers)

Number of Admission Criteria	Placement Rate[a] High (percent)	Low (percent)
Three Criteria	9	10
Two Criteria	43	39
One Criterion	38	45
No Admission Criteria	10	6
TOTAL	100	100
Number	[136]	[102]

[a]Differences between high and low placement sites not significant at chi square = 1.96, $p < .70$, df = 3.

TABLE A.14

PLACEMENT RATE BY RACIAL COMPOSITION
(School and Community)

Placement Rates	Racial Composition[a] School (percent)	Community (percent)
High	85	87
Low	79	88[b]
Number	[26]	[26]

[a]Percent of school staff and community that are white.

[b]Critical ratio test of difference between percentages = .63, $p = .26$ (one-tail test).

TABLE A.15

MEMBERSHIP IN STUDENT ORGANIZATIONS
BY PLACEMENT RATE
(Current and Former Students)

Membership	Placement Rate[a] High (percent)	Low (percent)
Members	80	52
Nonmembers	20	48
TOTAL	100	100
Number	[141]	[127]

[a]Differences between high and low placement sites significant at chi square = 23.91, $p < .001$, df = 1.

TABLE A.16

LEVEL OF INVOLVEMENT IN STUDENT ORGANIZATIONS
BY PLACEMENT RATE
(Current and Former Students Who Were Ever Members)

Level of Involvement	Placement Rate[a] High (percent)	Low (percent)
Participate Very Often or Often	66	65
Participate Sometimes, Rarely or Never	34	35
TOTAL	100	100
Number	[113]	[66]

[a]Differences between high and low placement sites not significant at chi square = .027, $p < .30$, df = 1.

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